DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING

CHANDIGARH UNIVERSITY

Discover. Learn. Empower.

Experiment 3

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Subject Name: ADBMS **Subject Code: 23CSP-333**

1. Aim:

Q.1. Generate an employee relation with only one attribute i.e., EMP_ID. Then, find the max EMP_ID, but excluding the duplicates.

Q.2. Create two tables, Department(ID, name) and Employees(ID, name, salary, deptID). Then output the highest earners from each department.

Q.3. Create two tables A and B with the attributes (EmpID, EmpName, Salary) and output the lowest salary of each employee across the two tables.

2. Requirements (Hardware/Software):

Microsoft SQL server

3. Procedure:

Q.1. Code:

```
CREATE TABLE TBL_EMPLOYEE(
   EMP_ID INT
);
INSERT INTO TBL_EMPLOYEE VALUES (2),(4),(4),(6),(6),(7),(8),(8);

SELECT MAX(EMP_ID) as [Greatest Unique ID] FROM TBL_EMPLOYEE WHERE EMP_ID
IN
(SELECT EMP_ID FROM TBL_EMPLOYEE GROUP BY EMP_ID HAVING
COUNT(EMP_ID)=1);
```

Q.2. Code:

```
CREATE TABLE department (
   id INT PRIMARY KEY,
   dept_name VARCHAR(50)
);

-- Create Employee Table
CREATE TABLE employees (
   id INT,
   name VARCHAR(50),
   salary INT,
   department_id INT,
   FOREIGN KEY (department_id) REFERENCES department(id)
);

-- Insert into Department Table
INSERT INTO department (id, dept_name) VALUES
(1, 'IT'),
(2, 'SALES');

-- Insert into Employee Table
INSERT INTO employees (id, name, salary, department_id)
VALUES
(1, 'JOE', 70000, 1),
(2, 'JIM', 90000, 1),
(3, 'HENRY', 80000, 2),
(4, 'SAM', 60000, 2),
(5, 'MAX', 90000, 1);

select d.dept_name, e.name, e.salary, d.id
from
employees as e
inner join
department as D
on e.department_id=d.id
where e.salary in (Select max(salary) from employees group by department_id);
```

Q.3. Code:

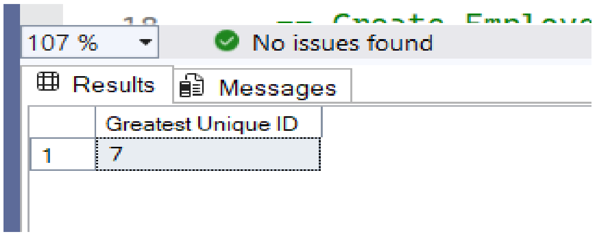
```
create table tbl_A (
          empid int PRIMARY key,
          empname varchar(20),
          salary int
)
insert into tbl_A values (1,'AA',1000), (2, 'BB',300);

--tblB
create table tbl_B (
          empid int PRIMARY key,
          empname varchar(20),
          salary int
)
insert into tbl_B values (2, 'BB',400), (3,'CC',100);

--answer
select empid, min(empname) as empname, min(salary) as min_salary from
(select * FROM
tbl_A
UNION
select * from
tbl_b) as UNI
group by empid;
```

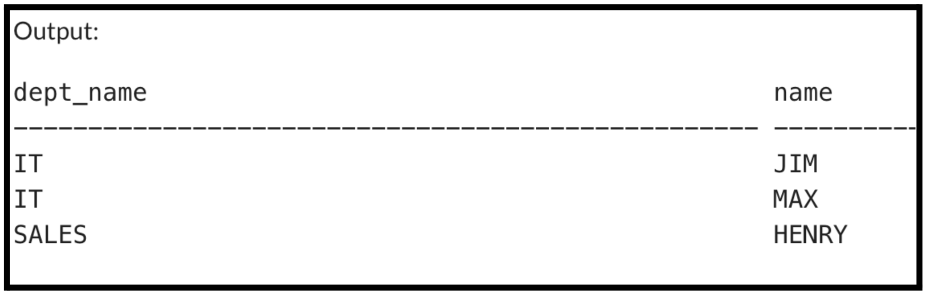
4. Output:

Q.1.



	Greatest Unique ID
1	7

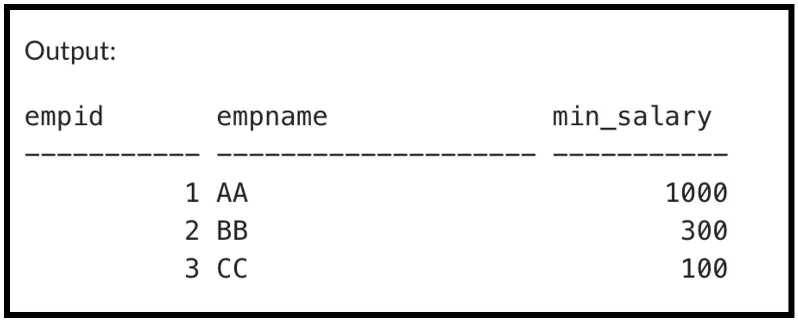
Q.2.



```
Output:

dept_name                                          name
-------------------------------------------------- ----------
IT                                                 JIM
IT                                                 MAX
SALES                                              HENRY
```

Q.3.



```
Output:

empid       empname              min_salary
----------- -------------------- -----------
          1 AA                          1000
          2 BB                           300
          3 CC                           100
```

5. Learning Outcome:

- Understand the role of sub-queries in simplifying complex SQL operations.
- Apply sub-queries in SELECT, WHERE, and FROM clauses to retrieve specific data.
- Utilize sub-queries for filtering, aggregation, and conditional logic.
- Analyze query performance implications when using sub-queries versus joins.